



NITI Aayog Panels to Achieve Net-Zero Goal

For Prelims: [Paris Agreement](#), [United Nations Conference on Climate Change, COP26](#), COP 27, [Nationally Determined Contributions \(NDC\)](#), Net zero, National Hydrogen Mission, Biofuel, [NITI Aayog](#)

For Mains: NITI Aayog Action Plan to Achieve Net-Zero by 2070, Paris Climate Agreement and its Impacts.

[Source: BS](#)

Why in News?

Recently, [NITI Aayog](#) has formed **dedicated multi-sectoral committees** to prepare a **policy design** and **create a roadmap** for achieving its goal of becoming a **net-zero economy by 2070**.

- This has been started 3 years after India declared its goal to become a **net-zero economy by 2070**.

What are the Key Focus Areas of the Working Groups Formed by the NITI Aayog?

- **About:**
 - **NITI Aayog** has formed 6 working groups. These groups will focus on **developing policy formats, working models, and transition pathways** for core sectors like macroeconomic implications, climate finance, critical minerals, and **social aspects of energy transition**.
 - It will also form sectoral committees on transport, industry, buildings, power, and agriculture.
- **The 6 Net-Zero Working Groups:**
 - **Macroeconomic Implications:** Examine the implications of net-zero pathways on macroeconomic indicators and suggest aligned monetary and fiscal policies.
 - **Climate Finance:** Estimate India's [climate finance](#) needs for mitigation and adaptation, and identify potential sources of finance.
 - **Critical Minerals:** Research and development, domestic manufacturing, and supply chain for critical minerals.
 - **Social Aspects of Energy Transition:** Assess the social impacts of the energy transition and propose mitigating strategies.
 - **Policy Synthesis:** Collate the reports of the sectoral committees and prepare a consolidated policy handbook.
 - **Sectoral Committees:** Devise transition pathways for power, industry, buildings, transport, and agriculture sectors.
- **Expected Outcomes:**
 - The deadline for all the working groups to **submit their action plans is October 2024**. The NITI Aayog report is expected to become a **policy handbook for all central ministries** for drafting climate-resilient and adaptive policies to achieve India's net-zero target by 2070.

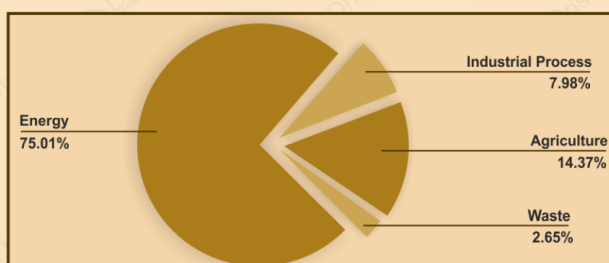
What is Net-Zero Target?

- **Net Zero** refers to achieving an **overall balance** between **carbon emissions produced** and **carbon taken out** of the atmosphere.
 - It is referred to as **carbon neutrality**, which **does not mean** that a country would bring down its emissions to zero.
 - Further, **absorption of the emissions** can be **increased by creating more carbon sinks** such as forests.
 - The removal of gases from the atmosphere requires futuristic technologies such as **carbon capture and storage**.
- More than 70 countries have promised to become **Net Zero** by 2050.

INDIA'S CLIMATE PROFILE

Sector-wise Contribution

- ↳ **Key Emitting Sectors:** Energy, Transportation, Construction



- ↳ **Key Climate Risks:** Floods, Droughts, Heat Waves, Cold Waves and Cyclones
- ↳ **Vulnerable Sectors:** Agriculture & Food, Water, Coastal, Health, Forests & other natural ecosystems

Key Initiatives for Tackling Climate Change

- ↳ **National Policy Framework**
 - National Action Plan on Climate Change (NAPCC)
 - State Action Plan on Climate Change (SAPCC)
- ↳ **India's Updated Nationally Determined Contributions (2022)**
 - Mass movement for 'LIFE'– Lifestyle for Environment
 - Adopt a climate-friendly and cleaner path for economic development
 - 45% reduction in emissions intensity of GDP by 2030 compared to 2005 levels, aiming for net-zero emissions by 2070
 - 50% cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030
 - Additional carbon sink of 2.5 to 3 billion tonnes of CO₂
 - Better adapt to climate change by enhancing investments in specific sector

- Mobilise domestic and new & additional funds
- Build capacities, create domestic framework and international architecture

- ↳ **International Climate Negotiations - UNFCCC (1994) Convention and Agreements**

- Paris Agreement (2015)
- Kyoto Protocol (2005)

Bilateral and Multilateral Cooperation

Bilateral Projects

- ↳ **With Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH (Germany)**
 - Climate Adaptation & Finance in Rural India (CAFRI) (2020-2023)
 - Nationally Appropriate Mitigation Actions (NAMAs) (2007)
 - Global Carbon Market (GCM) (1997)
 - Institutionalisation of Capacities on Climate Change Studies and Action (ICCC)
- ↳ **With European Union (EU)**
 - Strategic Partnerships for the Implementation of the Paris Agreement (SPIPA) (2018-2022)
 - Clean Technologies and Energy Efficiency for Eco-Cities

Multilateral Projects

- ↳ **UN Secretary-General (UNSG) Climate Action Summit (2019)**
- ↳ **Global Commission on Adaptation (GCA) (2018)**
- ↳ **UNDP:** Market Transformation and Removal of Barriers for Effective Implementation of the State-Level Climate Change Action

What are India's Initiatives to Achieve Net Zero Target?

- [National Action Plan on Climate Change](#): It aims at creating awareness among the representatives of the public, different agencies of the government, scientists, industry and the communities on the threat posed by climate change and the steps to counter it.
- India has promised to **cut its emissions to net zero by 2070** at the [Conference of Parties-26 \(COP\) Glasgow Summit](#).
- For this India outlined a **5-pronged 'Panchamitra' climate action** target:
 - Reach **500 GW Non-fossil energy** capacity by 2030.
 - **50% of its energy requirements from renewable energy** by 2030.
 - **Reduction of total projected carbon emissions by 1 billion tonnes** from now to 2030.
 - Reduction of the **carbon intensity of the economy by 45% by 2030**, over 2005 levels.
 - Achieving the target of **net zero emissions by 2070**.

CLIMATE FINANCE

Climate finance refers to local, national or transnational financing—drawn from public/ private/alternative sources of financing—to support mitigation and adaptation actions against climate change.

PRINCIPLES OF CLIMATE FINANCE

- ☞ Polluter Pays
- ☞ Common but Differentiated Responsibility and Respective Capability (CBDR-RC)

Multilateral Climate Funds Coordinated by UNFCCC

- ☞ **Global Environment Facility (GEF)**: Operating entity of financial mechanism (1994)
- ☞ **Kyoto Protocol (2001)**:
 - ☞ **Adaptation Fund (AF)**: Gives developing countries full ownership of adaptation projects
 - ☞ **Clean Development Mechanism (CDM)**: To carry out emission-reduction projects in developing nations
- ☞ **Green Climate Fund (GCF)**: estd. - 2010 (COP 16)
 - ☞ Funds under it - **Least Developed Countries Fund (LDCF)** and **Special Climate Change Fund (SCCF)**
- ☞ **Long-Term Climate Finance**:
 - ☞ **Cancun Agreements (2010)**: Mobilize and provide scaled-up funds in short and long term
 - ☞ **Paris Agreement (2015)**: Developed nations agreed to establish new collective goal of at least \$100 billion/year by 2025
- ☞ **Loss and Damage Fund (2023) (COP27 & COP28)**: Financial assistance to nations most vulnerable and impacted by effects of climate change

Climate Investment Funds (CIFs) under World Bank

- ☞ Clean Technology Fund
- ☞ Strategic Climate Fund

INDIA'S INITIATIVES REGARDING CLIMATE FINANCE

Fund	Objective
■ National Adaptation Fund for Climate Change (NAFCC) (2015)	■ For vulnerable Indian states
■ National Clean Energy Fund (2010-11)	■ Advancing clean energy (started with initial carbon tax on industrial coal use)
■ National Adaptation Fund (2014)	■ Bridging gap between required and available funds
■ Intended Nationally Determined Contributions (INDCs) (2015)	■ Nationally binding targets adopted under UNFCCC
■ Climate Change Finance Unit (2011)	■ Leads on global climate finance issues

Challenges to Climate Finance

- ☞ Gap between national needs and climate finance under NDCs
- ☞ Least Developed Countries receive much less approved funding in per-capita terms from the multilateral climate funds
- ☞ Slow rate of approvals
- ☞ Failure in securing viability-gap funding



Drishti IAS

What Steps can be Taken by India to Achieve Net-Zero Emission Target?

- **Enhancing Carbon Sequestration**: India can enhance its [carbon sequestration](#) potential by

expanding its **forest and tree cover**, restoring degraded lands, promoting agroforestry, and adopting **low-carbon farming practices**.

- **Carbon sequestration can** not only offset emissions but also provide multiple co-benefits such as **biodiversity conservation, soil fertility improvement**, water security, livelihood support, and disaster risk reduction.
- **Building Climate Resilience:** India can build its climate resilience by strengthening its **disaster management systems**, improving its early warning and forecasting capabilities, investing in climate-proof infrastructure, developing **climate-smart agriculture**, enhancing health care services, and empowering local communities and institutions.
- **Driving India's Green Transportation Revolution:** There is a need to promote **electric vehicles (EVs)** by establishing a robust charging infrastructure network and offering incentives for EV adoption.
 - Introducing **innovative public transportation solutions** such as electric buses, shared mobility services, and smart traffic management systems can reduce congestion and emissions.
- **Climate Smart Agriculture:** There is a need to **encourage sustainable farming practices** by promoting **organic farming, agroforestry, and precision agriculture**.
 - Integrating technology-driven solutions such as **remote sensing, IoT devices,** and **AI-based analytics** can optimise resource utilisation, reduce water consumption, and enhance crop productivity.
- **International Collaboration:** India can leverage international collaboration by **acquiring advanced clean technologies through technology transfer agreements with developed countries, securing international climate finance and sharing best practices with other developing countries.**

Drishti Mains Question:

Discuss India's pledge to achieve net zero emissions by 2070. Also, discuss the key policy measures and implications of this commitment for India's sustainable development priorities.

UPSC Civil Services Examination Previous Year Question (PYQ)

Prelims

Q. The term 'Intended Nationally Determined Contributions' is sometimes seen in the news in the context of (2016)

- (a) pledges made by the European countries to rehabilitate refugees from the war-affected Middle East
- (b) plan of action outlined by the countries of the world to combat climate change
- (c) capital contributed by the member countries in the establishment of the Asian Infrastructure Investment Bank
- (d) plan of action outlined by the countries of the world regarding Sustainable Development Goals

Ans: (b)

Q. In the context of India's preparation for Climate-Smart Agriculture, consider the following statements: (2021)

1. The 'Climate-Smart Village' approach in India is a part of a project led by the Climate Change, Agriculture and Food Security (CCAFS), an international research programme.
2. The project of CCAFS is carried out under Consultative Group on International Agricultural Research (CGIAR) headquartered in France.
3. The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) in India is one of the CGIAR's research centres.

Which of the statements given above are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

Ans: (d)

Q Which of the following best describes/describe the aim of 'Green India Mission' of the Government of India? (2016)

1. Incorporating environmental benefits and costs into the Union and State Budgets thereby implementing the 'green accounting'.
2. Launching the second green revolution to enhance agricultural output so as to ensure food security to one and all in the future.
3. Restoring and enhancing forest cover and responding to climate change by a combination of adaptation and mitigation measures.

Select the correct answer using the code given below.

- (a) 1 only
- (b) 2 and 3 only
- (c) 3 only
- (d) 1, 2 and 3

Ans: (c)

Mains

Q. Describe the major outcomes of the 26th session of the Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change (UNFCCC). What are the commitments made by India in this conference? **(2021)**